

# Assessment of Whitebark Pine Health in Oregon and Washington

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Surveys were conducted in 2005 in 29 whitebark pine (*Pinus albicaulis*) stands on national forests in Oregon and Washington to assess the incidence of white pine blister rust (*Cronartium ribicola*) infection and evidence of recent mountain pine beetle (*Dendroctonus ponderosae*) infestation in whitebark pine. Surveys consisted of fixed-width (10-meter), variable-length belt transects (similar to Whitebark Pine Ecosystem Foundation 2005). Transect length was set at a minimum of 50 meters. All whitebark pine trees greater than 1.4 meters tall within each transect were observed for status (live or dead), white pine blister rust and evidence of mountain pine beetle infestation. Mortality from all causes was 21.3 percent. By transect, the percentage of trees that were dead ranged from 1.1 percent to 61.0 percent, with a median of 19.6 percent. The overall blister rust infection rate in live trees was 23.9 percent. Blister rust infections were observed in 23 of the 29 transects. Infection rates in those 23 transects ranged from 4.7 percent to 73.3 percent of live trees, with a by-transect median of 26.8 percent. The lowest infection rates were east of the Cascades in southern Oregon. Evidence of recent mountain pine beetle infestation was observed in 8 of the 29 transects; the rate of infestation ranged from 1.2 percent to 28.4 percent of trees observed. A survey of seedlings within each transect was also conducted: overall seedling mortality was 3.8 percent, and 4.8 percent of live seedlings were infected with blister rust.

## References

Ward K., Shoal R., and Aubry C. 2006. Whitebark pine in Washington and Oregon: a synthesis of current studies and historical data. Pacific Northwest Region, USDA Forest Service.

Whitebark Pine Ecosystem Foundation. 2005. Methods for surveying and monitoring whitebark pine for blister rust infection and damage. Available online: [www.whitebarkfound.org](http://www.whitebarkfound.org).